

**METHODS AND SYSTEMS FOR UPDATING AND RECOVERING FIRMWARE  
WITHIN A COMPUTING DEVICE OVER A DISTRIBUTED NETWORK**

**Abstract**

5           Methods and systems are provided for updating and recovering firmware within  
computers over a distributed network. While a computer is in an operating system  
independent state, a determination is made as to whether the firmware within the  
computer is valid. The firmware may be the BIOS for the computer. If it is determined  
that the current firmware is invalid, a recovery request is sent to a manager computer  
10           monitoring for recovery requests. The manager computer sends a new firmware image  
over the network to the computer. The invalid firmware is then updated with the new  
firmware image. An instruction to update the firmware of the computer may also be sent  
from a manager computer to computers monitoring for instructions. When the instruction  
is received, the computer transitions to an operating system independent recovery state,  
15           receives a new firmware image over the network, and updates with the new firmware  
image.